



**WE CAN**

*Wholesome Effective  
Computer Applications  
Network*



**Prefixes**

**PREFIXES**

**Version 1.0**

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2520 Broadway Drive  
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May 31, 1982

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## INTRODUCTION

The Prefixes module consisting of one diskette and this support booklet has been designed for use with elementary grade levels. The diskette will operate on either an ATARI 400 or an ATARI 800 Computer. The support booklet provides information necessary for using the diskette effectively in a classroom setting.

**Reading**, the companion to **speaking, writing, and listening**, is a language arts skill which can be subdivided into categories such as phonetics, word structure, sentence structure, and grammar. Each of these categories can also be subdivided. This diskette examines one subdivision of word structure, the prefix.

The five prefixes taught on the MECC prefixes diskette are among the most commonly used. More importantly, they are the prefixes most in need of being taught based on the frequency of their introduction in teaching lessons of textbooks used in Minnesota schools. (See Appendix E, Charts 1 and 2).

The K-7 textbooks of seven major publishing companies were surveyed to determine how the teaching of prefixes was approached in their curriculum materials. From this information, charts were devised to show the grade level at which a particular prefix was introduced, the grade level at which the particular prefix was reviewed, and which prefixes were most commonly taught.

The results of the survey aided in the selection of prefixes and the order in which they are presented in the MECC prefixes diskette.

## INTRODUCTION (Continued)

The decision was made to develop computerized instruction which would:

1. Teach concepts as well as drill and review
2. Provide students with immediate reinforcement
3. Utilize random questioning capabilities of the computer
4. Utilize graphic capabilities of the computer
5. Allow teachers to select modules which correlate with their specific curriculum
6. Utilize appropriate reading level
7. Employ minimal typing skill in the beginning lessons.

Handout pages in this booklet may be duplicated for use with students. These pages are numbered sequentially in the upper right corner, for example, Handout 1 - Name of Handout. These pages also have MECC in the lower right corner.

Code numbers following some objectives refer to sections in Some Essential Learner Outcomes (SELOs), produced by the Minnesota Department of Education. The objectives in this booklet are taken from the Reading Education SELOs.

In Lesson 3 DRAGON FIRE and Lesson 7 CHIP 6502, the volume on the television should be turned on for auditory positive reinforcement.



## INDEX TO PROGRAMS ON DISKETTE . .

The MECC prefix diskette has lessons on the prefixes UN, RE, DIS, PRE, and IN. Lessons 1, 2, 4, 5, and 6 are tutorial and lessons 3 and 7 are review. Lesson choices are displayed on the screen as follows:

**Prefixes**

1. UN
2. RE
3. DRAGON FIRE
4. DIS
5. PRE
6. IN
7. CHIP 6502
  
8. Program Descriptions
9. End

Which number? ■

### Lesson 1 - UN

presents the meaning of UN as "not" or "the opposite of" and drills students on the meaning of UN.

### Lesson 2 - RE

presents the meaning of RE as "back" or "again" and produces drills to reinforce the meaning of RE.

### Lesson 3 - Dragon Fire

review the meanings of UN and RE through the use of a story where the student brings back the dragon.

### Lesson 4 - DIS

presents the meaning of DIS as "not" or "the opposite of" and produces two drills to reinforce the concept.

### Lesson 5 - PRE

presents the meaning of PRE as "to happen before some other event" and drills students.

### Lesson 6 - IN

presents the meaning of IN as "not" or "within" and drills students on the meaning of IN.

### Lesson 7 - Chip 6502

reviews the meanings of UN, RE, DIS, PRE and IN through the use of a story about the robot named Chip 6502.



## GENERAL DESCRIPTION . . .

There are two types of lessons on the MECC prefix diskette: teaching lessons and review lessons.

### Teaching Lessons

Each teaching lesson has four parts:

1. A presentation which explains the meaning of the prefix
2. A recognition activity which asks students to identify the prefix
3. A comprehension activity for students to apply comprehension skill
4. A summary score for students to copy onto their scoresheet.

The **presentation** gives the meaning of the prefix with the format varying from lesson to lesson. Graphics are used to present concepts pictorially as well as verbally. The presentation covers the following:

- a. Definition of a prefix
- b. Meaning of the prefix being studied
- c. Examples to clarify each meaning of the prefix
- d. Graphics to reinforce the meaning of the prefix.

**Activity 1** gives students drills or activities which reinforce the concepts in the presentation and requires that they recognize prefixes by underlining, typing the prefix and root word, or typing the new word formed by the prefix.

**Activity 2** asks students to apply what they have learned by using in a sentence the new word formed by the addition of the prefix.

A Summary scoresheet is provided for students to complete when they finish a lesson.

### Review Lessons

Lessons 3 and 7 are review lessons. Drills in the review lessons use graphics, have a motivating theme, and supply a goal for students to reach. In review lessons as in teaching lessons, questions are selected randomly from a bank of questions, so that students who rerun the lesson receive a different set of questions each time.

## USE IN AN INSTRUCTIONAL SETTING...

The prefix lessons are modular in design to allow the selection of parts that fit into individual teacher plans. A list of the words and sentences used in each lesson is included under Background Information for each prefix. From this list teachers can determine if a lesson relates to the concepts they wish to teach.

### Preparation

If an ATARI Computer has never been used before in the classroom, first acquaint students with the computer. Students will adapt very quickly; a three to five minute session giving them an overview of the computer should be sufficient.

A poster or card placed near the computer stating the steps needed to operate the machine is a good reminder. It should have the following information:

1. Turn on the Atari disk drive and wait for light to turn off.
2. Put the diskette in the disk drive.
3. Turn on the television and the ATARI Computer.
4. Follow the directions the computer gives you, and remember to press Return to go on.
5. To correct a mistake press the DELETE key.  
BACKS

Duplicate the handouts in this section, "Hi! My Name Is ATARI," and give each student a copy. Have one student operate the computer and demonstrate its operation to the rest of the class.

### Using the Program

The prefix lessons are designed for students to do one drill or one Review Lesson on the computer and then go elsewhere to do the activity sheets. Lessons are not designed to have students proceed directly from one lesson to another. Although lessons are designed for an individual student, two can work together on one lesson; this is an effective strategy when students work on the computer for the first time. After a lesson is completed and the student's score is presented, the computer waits for the next student to begin work on the lessons.

Students should:

1. Run the assigned lesson on the computer.
2. Fill in the section for the assigned lesson on the **SCORESHEET** in this booklet.
3. Do the **HANDOUT** sheet for the assigned lesson.

## USE IN AN INSTRUCTIONAL SETTING (Continued)

After students complete a lesson have them record their score(s) on the scoresheet and check to determine whether students should do the handout, go on to the next lesson, or repeat the same lesson.

LESSON 1: UN		
ACTI- VITY	NUMBER	RIGHT
---	---	---
1	5	4
2	5	2
	--	--
TOTALS	10	6

Press [RETURN] to continue.

This is a sample run of the summary score provided by the computer.

### Follow-up

The following activities can be used by the teacher to strengthen concepts covered in computer lessons and handouts.

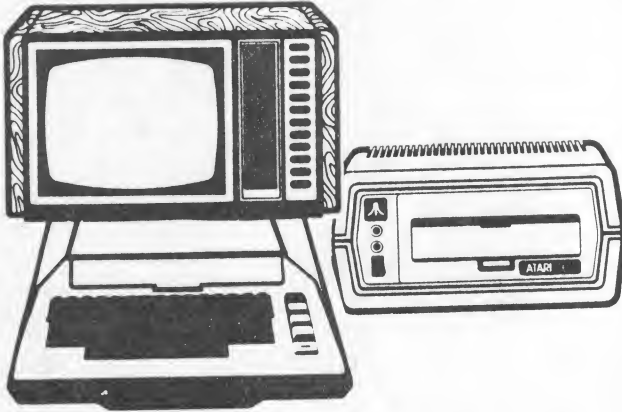
1. Playing the Teacher. Capable students will enjoy making up blackboard sentences or a worksheet of sentences for other students to complete with the appropriate prefix.
2. Card Game. Make up two sets of cards. Make one set for UN, RE, DIS, PRE and IN and another set of root word cards.
  - (A) Students pair off with one holding up a prefix card and the other students matching it with an appropriate root word card.
  - (B) With an entire deck of word and prefix cards students can play "Match Up" by drawing word and prefix cards and laying down pairs. The student with the most pairs is the winner.
3. Encourage students to watch for prefixes on signs as they travel to and from school.
4. Encourage students to listen for prefixes as they watch television and try to list the ones they hear. Discuss whether they hear as many prefixes during a commercial as they do on a program.

### Prefix and Grade Level Correlation

Below are the prefixes taught on the prefix diskette and the grade levels at which they occur in the textbooks of seven publishers. (See Appendix E, Chart 2 for specific references).

Prefix Taught	Grade Level of Textbook 2 3 4 5 6	Publisher
<u>UN</u>	2 3 5	Allyn & Bacon
	2 3 4 5 6	Ginn
	2 4 5 6	Harper Row
	2 3 4 5 6	Holt
	3 4	Houghton-Mifflin
	2 3 4 5 6	Laudlaw
	2 3 4 6	Scott Foresman
<u>RE</u>	5	Allyn & Bacon
	2 3 4 5 6	Ginn
	2 4 6	Harper Row
	2 3 5 6	Holt
	4	Houghton-Mifflin
	2 3 5 6	Laudlaw
	3 4	Scott Foresman
<u>DIS</u>	3 5	Allyn & Bacon
	3 4 5	Ginn
	3 4 5	Harper Row
		Houghton-Mifflin
	3 4 5 6	Laudlaw
	4	Scott Foresman
<u>PRE</u>	5	Allyn & Bacon
	4 5	Ginn
	3 4 5	Harper Row
	5 6	Holt
	4 5	Houghton-Mifflin
	5	Laudlaw
	3 4 6	Scott Foresman
<u>IN</u>	5	Allyn & Bacon
		Ginn
	4 5	Harper Row
	3 5 6	Holt
		Houghton-Mifflin
	5 6	Laudlaw
		Scott Foresman

## PREFIX LESSONS 1-7



This is an ATARI  
Computer. It can  
help you learn about  
prefixes.

1. Turn on the ATARI disk drive and wait for the light to go off.
2. Insert the PREFIX diskette.
3. Turn on the Television.
4. Turn on the ATARI Computer—wait until the red light is out on the disk drive.
5. Pick a lesson number and press RETURN.
6. Answer each question and press RETURN.
7. When you finish, copy your score on the Scoresheet.
8. See your teacher for the Handout.

# PREFIX SCORESHEET

Name: \_\_\_\_\_

LESSON 1 - <u>UN</u>			LESSON 2 - <u>RE</u>		
ACTIVITY	NUMBER	RIGHT	ACTIVITY	NUMBER	RIGHT
1	_____	_____	1	_____	_____
2	_____	_____	2	_____	_____
TOTALS	_____	_____	TOTALS	_____	_____

LESSON 3 - <u>DRAGON</u> <u>FIRE</u>		
ACTIVITY	NUMBER	RIGHT
1	_____	_____

LESSON 4 - <u>DIS</u>			LESSON 5 - <u>PRE</u>		
ACTIVITY	NUMBER	RIGHT	ACTIVITY	NUMBER	RIGHT
1	_____	_____	1	_____	_____
2	_____	_____	2	_____	_____
TOTALS	_____	_____	TOTALS	_____	_____

LESSON 6 - <u>IN</u>			LESSON 7 - <u>CHIP</u> <u>6502</u>		
ACTIVITY	NUMBER	RIGHT	ACTIVITY	NUMBER	RIGHT
1	_____	_____	1	_____	_____
2	_____	_____	2	_____	_____
TOTALS	_____	_____	TOTALS	_____	_____

WORKING WITH THE PREFIX UN

---

Specific Topic:	Prefixes		
Type:	Tutorial		
Reading Level:	Tutorial:	3.0	(Spache Test)
	Activities:	2.3	
	Worksheet:	2.7	

DESCRIPTION...

LESSON 1 presents the meaning of the prefix UN as "not" or "the opposite of" and provides students with drill and practice on the meanings of words using the prefix UN.

OBJECTIVES...

1. to know the prefix UN means "not" or "the opposite of."
2. to distinguish the prefix UN from the root word.
3. to comprehend the meaning of the word with the prefix UN by demonstrating its use in sentences.
4. to be able to demonstrate knowledge of syllables, prefixes and suffixes (Reading SELOs Domain 1, Objective C).



**BACKGROUND INFORMATION...**

Below are lists of words and sentences used in the computer program drills. These may be used to determine whether the drill is applicable for a particular class.

Lesson 1 - Activity 1, Prefix UN

unfed  
unlike  
unwise  
unable

unhappy  
unfair  
unsure  
uncut

unsafe  
unkind  
untrue

Lesson 1 - Activity 2, Prefix UN

It is \_\_\_\_\_ that ice is cold.

It is \_\_\_\_\_ to look before you cross the street.

A deer is \_\_\_\_\_ to run fast.

A car gets \_\_\_\_\_ in a carwash.

The girl smiled because she was \_\_\_\_\_.

The lion is hungry because it is \_\_\_\_\_.

The \_\_\_\_\_ child hit the dog.

\_\_\_\_\_ your shoes before you take them off.

Playing with fire is \_\_\_\_\_.

The teacher is \_\_\_\_\_ to lift the school bus.

Grass is long when it is \_\_\_\_\_.

true untrue

wise unwise

unable able

clean unclean

happy unhappy

fed unfed

unkind kind

Untie Tie

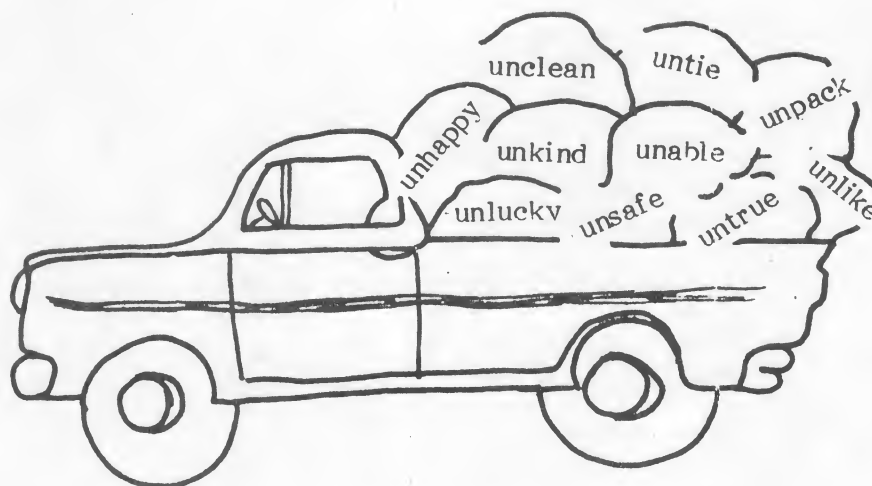
unsafe safe

unable able

cut uncut

LESSON 1 UNUNload The Truck

To unload most of the truck, cross out the word on the rock and write it in the sentence where it fits best.



Joe is \_\_\_\_\_ to lift the truck.

It is \_\_\_\_\_ to drive in bad weather.

The child was \_\_\_\_\_ and cried.

This truck is \_\_\_\_\_ that truck.

It is \_\_\_\_\_ that elephants are small.

Don't be \_\_\_\_\_ to animals.

Gail will \_\_\_\_\_ the suitcase.

\_\_\_\_\_ your shoe before you take it off.

## LESSON 1 UN

### SAMPLE RUNS

un = not or opposite

We can unload  
the truck.




unloaded


After defining the term "prefix" the program tells the student that UN means "not" or "the opposite of" and gives an example using a word along with a graphic representation.

### EXAMPLES OF SCREEN OUTPUT

Underline the prefix

unable

Press the  key.  
Press space bar  
if done.

In Activity 1, students underline the prefix using the  Key.

Next, they press the Space Bar if done. If correct, the program reinforces learning by defining the word. If incorrect, students are given a second chance.

If the second try is incorrect, the program underlines the prefix and defines the word.

# LESSON 1 UN

## SAMPLE RUNS

**Enter A or B to  
finish the sentence**

**The lion is hungry  
because it is**

\_\_\_\_\_.

**A fed**

**B unfed**

In Activity 2, students are presented with a sentence and two possible answers.

Students type A or B and press the Return Key. If correct, the program places the correct answer in the blank and provides positive reinforcement. If incorrect, the computer gives the correct answer.

## EXAMPLES OF SCREEN OUTPUT

### LESSON 1: UN

ACTI- VITY	NUMBER	RIGHT
----	-----	-----
1	5	4
2	5	2
	--	--
TOTALS	10	6

Press [RETURN] to continue.

At the end of the activity a summary score is provided. Students should copy the scores on their score sheet.

**WORKING WITH THE PREFIX RE** \_\_\_\_\_

Specific Topic:	Prefixes		
Type:	Tutorial		
Reading Level:	Tutorial:	3.0	(Spache Test)
	Activities:	2.9	
	Worksheet:	2.7	

**DESCRIPTION...**

LESSON 2 presents the meaning of the prefix RE as "back" or "again" and drills students on the meanings.

**OBJECTIVES...**

1. to know that the prefix RE means "back" or "again".
2. to distinguish the prefix RE from the root word.
3. to comprehend the meaning of the word with the prefix RE by demonstrating its use in sentences.
4. to demonstrate knowledge of prefixes (Reading SELOs Domain 1, Objective C).

# BACKGROUND INFORMATION...

Below are lists of words and sentences used in each activity. These may be used to determine whether the drill is applicable for a particular class.

## Lesson 2 - Activity 1, Prefix RE

recross	return	refit
rebuild	reread	refill
redress	replace	reopen
redo	repay	repaint
replay	retell	remake

## Lesson 2 - Activity 2, Prefix RE

Can you <b>recross</b> a street?	Yes
Can you <b>replant</b> a tree?	Yes
Can you <b>refill</b> a glass?	Yes
Can you <b>repay</b> your brother?	Yes
Can you <b>retake</b> a picture?	Yes
Can you <b>remake</b> a bed?	Yes
Can you <b>repaint</b> your house?	Yes
Can you <b>reread</b> a book?	Yes
Can you <b>replant</b> a chair?	No
Can you <b>repaint</b> the wind?	No
Can you <b>reopen</b> a telephone?	No
Can you <b>replace</b> a dish?	Yes
Can you <b>rebuild</b> the sky?	No
Can you <b>reheat</b> a desk?	No

LESSON 2 REREpeat The Prefix

Find the 9 words with the prefix RE, and draw a circle around each word.

R E P L A Y Y A T G  
 E R X R C R N P E H  
 P E S E R E T E L L  
 L F U P S P Q M C L  
 A I D A G L N Y D S  
 C L R I W A T M P B  
 E L K D E N I T Y M  
 D N I R E T A K E L  
 T E M R E B U I L T  
 Z B Z R E O P E N S

Now REuse each word once in the sentences below.

1. Listen and Grandma will \_\_\_\_\_ the story.
2. Please \_\_\_\_\_ my glass with cold water.
3. Smile this time and I will \_\_\_\_\_ your picture.
4. We will \_\_\_\_\_ the flowers.
5. The door will not \_\_\_\_\_.
6. The loan on the car was \_\_\_\_\_.
7. Will you \_\_\_\_\_ my favorite song?
8. The broken vase could not be \_\_\_\_\_.
9. After the fire, the house was \_\_\_\_\_.



LESSON 2 RE  
ANSWER KEY

REpeat The Prefix

R E P L A Y . . . .  
E R . R . R . . . .  
P E . E R E T E L L  
L F . P . P . . . .  
A I . A . L . . . .  
C L . I . A . . . .  
E L . D . N . . . .  
D . . R E T A K E .  
. . . R E B U I L T  
. . . R E O P E N .

1. Listen and Grandma will retell the story.
2. Please refill my glass with cold water.
3. Smile this time and I will retake your picture.
4. We will replant the flowers.
5. The door will not reopen.
6. The loan on the car was repaid.
7. Will you replay my favorite song?
8. The broken vase could not be replaced.
9. After the fire, the house was rebuilt.

SAMPLE RUNS

**re = back OR again**

---

**Reloaded means  
loaded again.**



**reloaded**

Press **RETURN** to continue.


After defining the term "prefix," the program tells students that RE means "back" or "again" and gives an example of RE meaning "back" and meaning "again." Graphics of both meanings are followed by a restatement of the meaning of RE.


EXAMPLES OF SCREEN OUTPUT

**Underline the prefix**

---

**reopen**

**Press the  key.  
Press space bar  
if done.**

In Activity 1 students underline the prefix using the  Key.

Next, they press the Space Bar if done. If correct, the program reinforces learning by defining the word. If incorrect, students are given a second chance.

If the second try is incorrect, the program gives the correct answer.

## LESSON 2 RE

### SAMPLE RUNS

**CAN YOU**  
**replace a dish?**  
**yes**  
**Right!**  
**Yes, you can.**

In Activity 2, students are presented with questions in the form of CAN YOU perform a certain task. Each question contains a word with the prefix RE. The student reads the sentence and decides whether or not the question is possible by answering YES or NO. (Students may type YES or NO or Y or N.)

If students answer incorrectly, the correct answer is given.

### EXAMPLES OF SCREEN OUTPUT

**LESSON 2: RE**

<b>ACTI- VITY</b>	<b>NUMBER</b>	<b>RIGHT</b>
<b>----</b>	<b>-----</b>	<b>-----</b>
<b>1</b>	<b>5</b>	<b>4</b>
<b>2</b>	<b>5</b>	<b>3</b>
	<b>--</b>	<b>--</b>
<b>TOTALS</b>	<b>10</b>	<b>7</b>

After the summary score is given, the program instructs students on the next task.

Press **RETURN** to continue.

REVIEW LESSON 3  
DRAGON FIRE

WORKING WITH THE PREFIXES UN AND RE \_\_\_\_\_

Specific Topic: Prefixes  
Type: Drill  
Reading Level: Activity: 2.6 (Spache Test)  
Worksheet: 3.2

DESCRIPTION...

LESSON 3 reviews the meanings of UN and RE through the use of a story in which the students "bring back the dragon."

OBJECTIVES...

1. to know that the prefix UN means "not" or "the opposite of," and that the prefix RE means "back" or "again."
2. to distinguish between the prefixes UN and RE by making words that will complete sentences.
3. to demonstrate knowledge of prefixes (Reading SELOs Domain 1, Objective C).

REVIEW LESSON 3  
DRAGON FIRE

BACKGROUND INFORMATION...

Below are sentences which are used in random order in lesson 3.

Lesson 3 - Review of UN and RE

The **unfed** dragon was sad.

He will **recross** the river.

This story was **retold** many times.

Who will **rename** the dragon?

The prince will **return**.

The princess will **untie** the rope to set herself free.

She was the **unhappy** dragon.

We can **retell** the story.

He will **recall** this story.

The old woman will **refill** the water glass.

The princess was **unfair**.

The princess was **unhappy**.

The prince will **rename** the castle.

Her ideas were **unlike** those of any other princess.

The prince was **unlike** other men.

## REVIEW LESSON 3

## HELP THE DRAGON

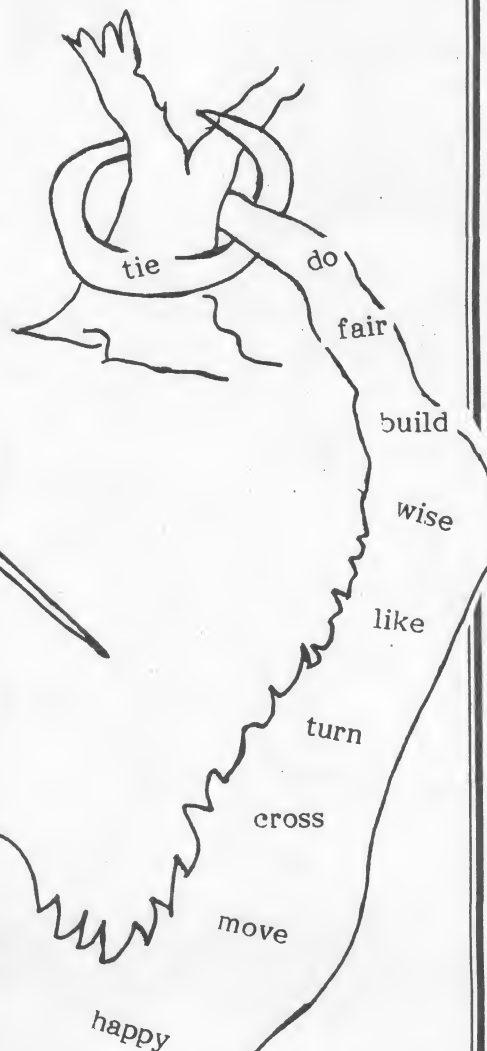
"Unhappy? I'm not un \_\_\_\_\_,"  
 said the Dragon. "I just want to  
 un \_\_\_\_\_ my tail. Whenever I cross  
 that swamp, and then re \_\_\_\_\_ to  
 re \_\_\_\_\_ to this side, my tail gets  
 caught around that stump."

Find the word on the tail that  
 goes with the prefix in the  
 story, and fill in the blanks.

(Use each word once)

"How un \_\_\_\_\_," said the  
 Wizard. "I will re \_\_\_\_\_ your tail.  
 Let's see, I will need glue, a rubber  
 tire..."

"Wait a minute," said the Dragon. "It  
 is un \_\_\_\_\_ and would be un \_\_\_\_\_ me,  
 if you re \_\_\_\_\_ my tail. Just help me  
 re \_\_\_\_\_ the stump."



## REVIEW LESSON 3

## ANSWER KEY

## HELP THE DRAGON

"Unhappy? I'm not unhappy," said the Dragon. "I just want to untie my tail. Whenever I cross that swamp, and then recross to return to this side, my tail gets caught around that stump."

"How unfair," said the Wizard. "I will rebuild your tail. Let's see, I will need glue, a rubber tire..."

"Wait a minute," said the Dragon. "It would be unwise and unlike me, if you were to redo my tail. Just help me remove the stump."



REVIEW LESSON 3  
DRAGON FIRE

SAMPLE RUNS

**Dragon Fire**

Once upon a time in  
the land of MECC,  
lived a dragon. The  
king ordered the  
dragon away. The  
dragon was unhappy.  
He wanted to return.

In the Review Lesson, students try to make the Dragon "return" by answering problems correctly. For each correct answer, more of the Dragon will appear on the screen.

EXAMPLES OF SCREEN OUTPUT

Add un or re.  
\_\_\_\_\_ tie

To set herself free,  
the princess will  
\_\_\_\_\_ tie the rope.

In the Review Lesson, students type in the prefix to complete the word correctly within the sentence.

Students type either UN or RE and press the Return Key. If the prefix is correct, the Dragon emerges one step further onto the screen. If the prefix is incorrect, students continue to the next problem without seeing the Dragon.

# REVIEW LESSON 3 DRAGON FIRE

## SAMPLE RUNS

re means  
back



Students must answer 11 out of 15 problems correctly to see the entire dragon. If students do not answer 11 problems correctly they are told to "Try again to see the Dragon return."

## EXAMPLES OF SCREEN OUTPUT

### DRAGON FIRE

ACTI- VITY	NUMBER	RIGHT
---	---	---
1	11	10
	--	--
TOTALS	11	10

Press **RETURN** to continue.

At the end of the drill, students receive a score to copy on their score-sheets.

**WORKING WITH THE PREFIX DIS**

---

Specific Topic:	Prefixes		
Type:	Tutorial		
Reading Level:	Tutorial:	3.7	(Spache Test)
	Activities:	3.2	
	Worksheet:	3.1	

**DESCRIPTION...**

LESSON 4 presents the meaning of DIS as "not" or "the opposite of" and produces two drills to reinforce the concept of DIS.

**OBJECTIVES...**

1. to know that the prefix DIS means "not" or "the opposite of."
2. to distinguish the prefix from the root word.
3. to comprehend the meaning of a word with the prefix DIS by demonstrating its use in sentences.
4. to demonstrate knowledge of prefixes (Reading SELOs Domain 1, Objective C).

## LESSON 4 DIS

### BACKGROUND INFORMATION...

Below are lists of words and sentences used in the computer program drills. These may be used to determine whether the drill is applicable for a particular class.

#### Lesson 4 - Activity 1, Prefix DIS

disagree  
dismount  
disobey  
disappear

displease  
displace  
dislike  
dishonest

disapprove  
disconnect  
disloyal

#### Lesson 4 - Activity 2, Prefix DIS

The man was **displeased**.

Do not **disobey** traffic lights.

I **disagree** with you.

Let us **discontinue** the work.

He was **disloyal** to his school.

The magician made the rabbit **disappear**.

The class **disapproved** of Mary's idea.

The salesperson was **dishonest**.

Why did the cat **distrust** the children?

Dogs **dislike** loud noise.

LESSON 4 DISA cartoon illustration of a cat lying on its back, pouring words from a list into a top hat. The words are: displace, dishonest, disappear, disbelieve, disobey, discontinue, dislike, disapprove, and disable. The hat has several horizontal lines for writing. A speech bubble from the cat says "NOW you see me". Another speech bubble from the hat says "NOW you DON'T!".

NOW you  
see me

The DISAppearing Prefix

displace

dishonest

disappear

disbelieve

disobey

discontinue

dislike

disapprove

disable

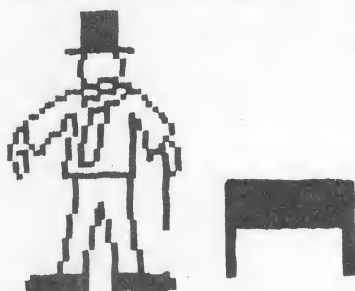
NOW  
you  
DON'T!

Write the words above without  
their prefixes on the lines  
on the hat

## LESSON 4 DIS

### SAMPLE RUNS

The magician made  
the rabbit  
disappear.



Press **RETURN** to continue.

After defining the term "prefix," the computer tells students that DIS means "not" or "the opposite of" and gives examples for both meanings. Students identify the prefix by typing the prefix in "disappear." A graphic of the word "disappear" is followed by a restatement of the meanings of DIS.

### EXAMPLES OF SCREEN OUTPUT

Type the root word

disobey

PREFIX

ROOT

dis  
GOOD.

obey  
GOOD.

In Activity 1 students type the prefix of a given word. If correct, they type the root word. If they do not identify the prefix, they are given a second chance. If incorrect again, they are given the answer and asked to identify the root word.

A score of 1 point is given for a correct root word and 1 point for a correct prefix.

## LESSON 4 DIS

### SAMPLE RUNS

Choose the best  
Meaning.  
I disagree with  
you.

A believe  
B differ

Activity 2 presents a sentence containing a word with the prefix DIS. Two meanings of the word will be given.

Students choose the meaning that best describes the use of that word in the sentence. If incorrect, the program gives the correct answer.

### EXAMPLES OF SCREEN OUTPUT

## LESSON 4: DIS

ACTI- VITY ----	NUMBER -----	RIGHT -----
1	10	9
2	5	2
----	----	----
TOTALS	15	11

After the summary score is given the program instructs students on the next task.

Press **RETURN** to continue.



**WORKING WITH THE PREFIX P R E**

---

Specific Topic:	Prefixes		
Type:	Tutorial		
Reading Level:	Tutorial:	4.0	(Spache Test)
	Activities:	3.9	
	Worksheet:	4.0	

**DESCRIPTION...**

LESSON 5 presents the meaning of PRE as "to happen before some other event" and then drills students on words using PRE.

**OBJECTIVES...**

1. to know that the prefix PRE means "to happen before some other event"
2. to distinguish the prefix PRE from the root word
3. to comprehend the meaning of a word with the prefix PRE by demonstrating its use in sentences
4. to demonstrate knowledge of prefixes (Reading SELOs domain 1, objective C)

**BACKGROUND INFORMATION...**

Below are lists of words and sentences used in the computer program drills. These may be used to determine whether the drill is applicable for a particular class.

Lesson 5 - Activity 1, Prefix PRE

pregame	prearrange	prejudge
prepay	prepaint	presoak
preteen	preview	preheat
premature	pretest	precook
preset		

Lesson 5 - Activity 2, Prefix PRE

**Precook** the food in the oven.

Please **preheat** the oven.

**Presoak** your dirty socks before washing.

Mary took a reading **pretest**.

Teachers should **preview** films.

**Preteen** students pay less at movies.

Joe **prepaid** the bill.

They saw the **pregame** show.

Their car was from **prewar** days.

Dinosaurs are **prehistoric** animals.

I will **prearrange** the meeting.

Children under five are at a **preschool** age.

LESSON 5 PRETHE PREGAME

Score a touchdown (6 points), an extra point (1) and a safety (2 points) by moving the football on the left to the right place on the field.

TOUCHDOWN!

precooked

preheat

preview

prehistoric

pretest

preschool

prearranged

prepay

presoak

SAFETY EXTRA POINT

Mother will \_\_\_\_\_ the oven and bake the cake.

A dinosaur is a \_\_\_\_\_ animal.

Our teacher gave us a \_\_\_\_\_.

Tom saw a \_\_\_\_\_ of the movie on T.V.

\_\_\_\_\_ comes before kindergarten.

The children's trip to the circus was \_\_\_\_\_.

If you \_\_\_\_\_ the cost, you will not get a bill.

Some \_\_\_\_\_ hams must be baked before you eat them.

\_\_\_\_\_ your dirty socks before you wash them.

SAMPLE RUNS

**Pregame drills are  
done:**

- A. before the game**
- B. during the game**
- C. after the game**

**Enter A,B,or C**

After defining the term "prefix," the computer tells students that PRE means "to happen before some other event" and gives an example of PRE as in "pretest" and a question on the meaning of the word "pregame." A graphic of PRE with drills using the word "pregame" are followed by a restatement of the meaning of PRE.

EXAMPLES OF SCREEN OUTPUT

**Add pre to a word  
to fill in the blank**

**To test before  
means \_\_\_\_\_.**

In Activity 1 students must add the prefix PRE to a word to understand the meaning.

They fill in the blanks by typing the root word with the prefix. If incorrect after two tries, the computer gives the answer.

## SAMPLE RUNS

Add pre to a word  
 paid                teen  
 war                soak  
 historic        game

Dinosaurs are  
 prehistoric  
 animals.  
 That's right!

Activity 2 presents six words. Students add the prefix PRE to one of those words and type it in the sentence. Five sentences are displayed with six word choices. Students choose the word that fits best.

Correct answers are crossed off the list of six words. Students are given two chances to answer each sentence correctly.

## EXAMPLES OF SCREEN OUTPUT

## LESSON 5: PRE

ACTI- VITY ----	NUMBER -----	RIGHT -----
1	5	5
2	5	3
	--	--
TOTALS	10	8

Press **RETURN** to continue.

At the end of the drill students receive a score to copy on their score-sheets.

WORKING WITH THE PREFIX IN \_\_\_\_\_

Specific Topic: Prefixes

Type: Tutorial

Reading Level: Tutorial: 2.9 (Spache Test)  
 Activities: 3.1  
 Worksheet: 3.9

DESCRIPTION...

LESSON 6 presents the meaning of IN as "not" or "within" and drills students.

OBJECTIVES...

1. to know the prefix IN means "not" or "within"
2. to distinguish the prefix IN from the root word
3. to comprehend the meaning of a word with the prefix IN by demonstrating its use in sentences
4. to demonstrate knowledge of prefixes (Reading SELOs domain 1, objective C)

**BACKGROUND INFORMATION...**

Below are lists of words and sentences used in the computer program drills. These may be used to determine whether the drill is applicable for a particular class.

Lesson 6 - Activity 1, Prefix IN

incapable	inactive	indefinite
informal	invisible	incorrect
incomplete	indirect	indoors
inbounds	infield	insecure

Lesson 6 - Activity 2, Prefix IN

A person who runs is **active**.

A cow is **incapable** of flying to the moon.

Blue jeans are **informal** clothing.

Stars are **invisible** during the day.

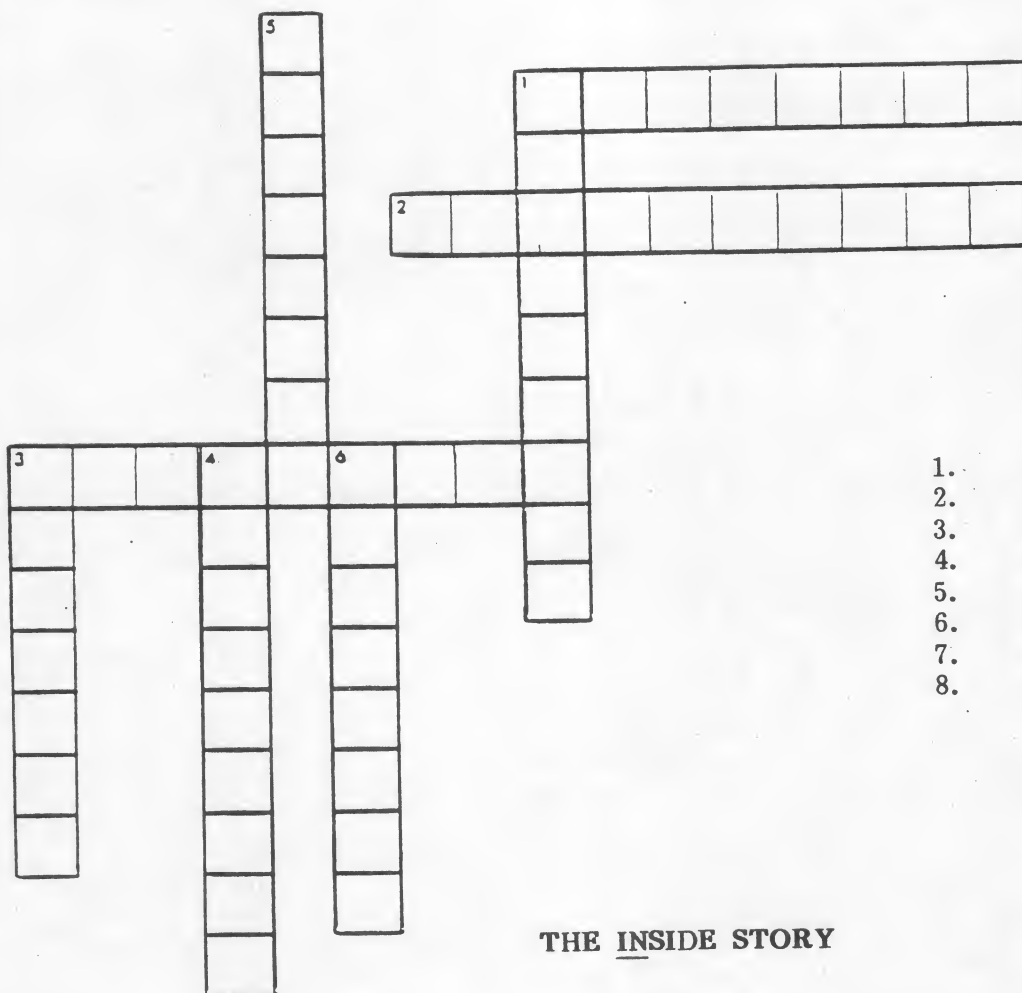
The quickest route is the **direct** route.

In the winter we eat **inside** the house.

The teacher was angry because the word was **incomplete**.

The pitcher plays **infield** in baseball.

Being **insecure** made him shake.

LESSON 6 IN

1. Incorrect
2. Informal
3. Invisible
4. Indirect
5. Incapable
6. Inbounds
7. Incomplete
8. Indoors

THE INSIDE STORY

## Clues

## Across

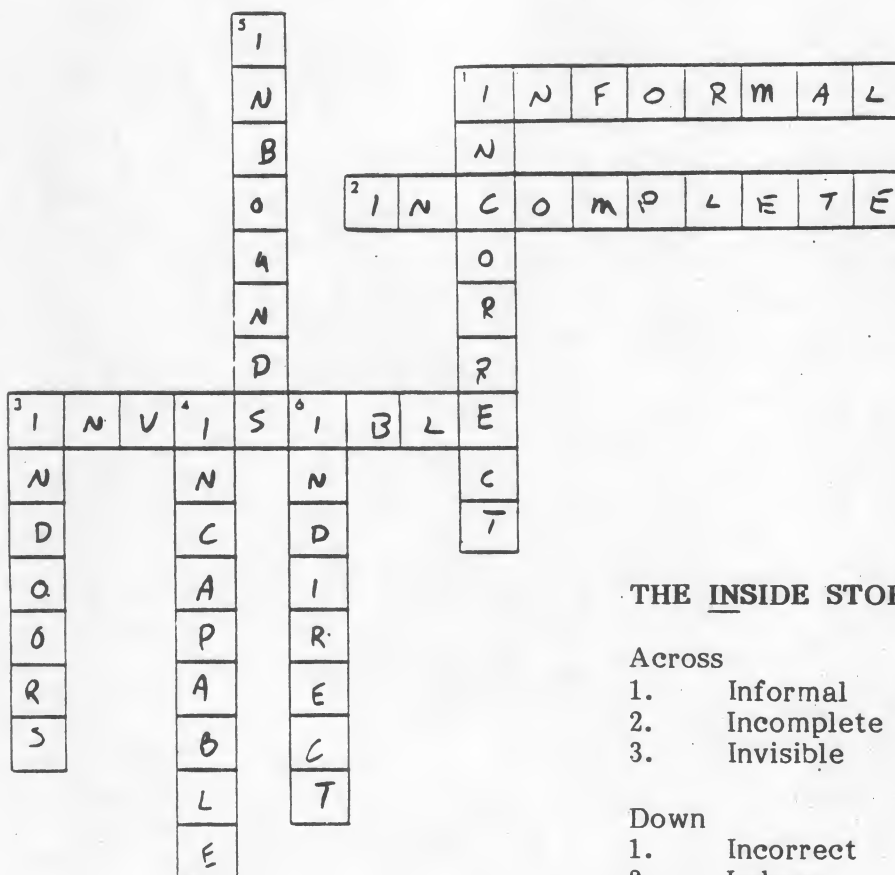
1. Blue jeans are more \_\_\_\_\_ than skirts and slacks.
2. The puzzle is \_\_\_\_\_ because the puppy ate a piece.
3. Poor Casper wanted to be \_\_\_\_\_ like other ghosts!

## Down

1. If your first answer is \_\_\_\_\_, try again!
3. Mary and Tony played \_\_\_\_\_ while it was raining.
4. The little boy was \_\_\_\_\_ of tying his shoes.
5. The volleyball hit the net and stayed \_\_\_\_\_.
6. Peter was late because he took an \_\_\_\_\_ route.



LESSON 6 IN  
ANSWER KEY



THE INSIDE STORY

Across

1. Informal
2. Incomplete
3. Invisible

Down

1. Incorrect
3. Indoors
4. Incapable
5. Inbounds
6. Indirect

SAMPLE RUNS

An inactive person  
would:

A. run  
B. rest  
Enter A or B    B


Yes, inactive  
means not active.


After defining the term "prefix," the program tells students that IN means "not" or "within" and gives examples of both meanings. A question on the word "inactive" is presented followed by a restatement of the meaning of IN.

EXAMPLES OF SCREEN OUTPUT

Underline the prefix

incorrect

Press the  key.  
Press space bar  
if done.

In Activity 1 students underline the prefix using the  Key.

Next, they press the Space Bar if done. If they identify the prefix, the program reinforces learning by defining the word. If students answer incorrectly, they are given a second chance.

If the second answer is incorrect, the program gives the correct answer and the meaning of the word.

# LESSON 6 IN

## SAMPLE RUNS

**Enter A or B to  
finish the sentence**

**A man who runs  
is \_\_\_\_\_.**

**A active  
B inactive**

Activity 2 presents a sentence with two possible answers. Students answer by typing "A" or "B" and press the Return Key. Positive reinforcement is used if the answer is correct.

If students answer incorrectly, the program gives the correct response.

## EXAMPLES OF SCREEN OUTPUT

### LESSON 6: IN

ACTI- VITY ----	NUMBER -----	RIGHT -----
1	5	5
2	5	3
	--	--
TOTALS	10	8

Press **RETURN** to continue.

A summary score is given at the end of the program.

**WORKING WITH THE PREFIXES UN, RE, DIS, PRE, AND IN** \_\_\_\_\_

Specific Topic:      Prefixes  
Type:                  Drill  
Reading Level:      Activity:      3.7      (Spache Test)  
Worksheet:          3.6

**DESCRIPTION...**

LESSON 7 reviews the meanings of UN, RE, DIS, PRE, and IN through the use of graphics and a story about a robot named CHIP 6502.

**OBJECTIVES...**

1.      to know the meanings of the prefixes UN, RE, DIS, PRE and IN
2.      to distinguish between the prefixes UN, RE, DIS, PRE and IN by making words that complete sentences
3.      to demonstrate knowledge of prefixes (Reading SELOs domain 1, objective T)

**BACKGROUND INFORMATION...**

Below are sentences used in the computer program drills for Review Lesson 7.

Lesson 7 - Review

The space ship **returned** to earth safely.

Chip was **unhappy** when he fell.

The rocket ship **disappeared** out of sight.

Chip said the trip might be **unsafe**.

It would be **unwise** to attack the enemy ship.

We will **relocate** the city on Mars.

We will **rebuild** Chip when it breaks down.

Chip's arm was **replaced** when it fell off.

The captain **retold** the story.

When worn down, the laser must be **recharged**.

Space ships must slow down before **reentry**.

Before entering school, robots must take a **pretest**.

The ship's crew must **refill** the fuel tank after the flight.

Chip led the team in **pregame** drills.

We will **discontinue** all trips to Mars.

Chip **disagreed** with the captain.

The **dishonest** officer robbed the ship.

Chip **distrusts** other robots.

Chip will be **displeased** with you if you get this wrong.

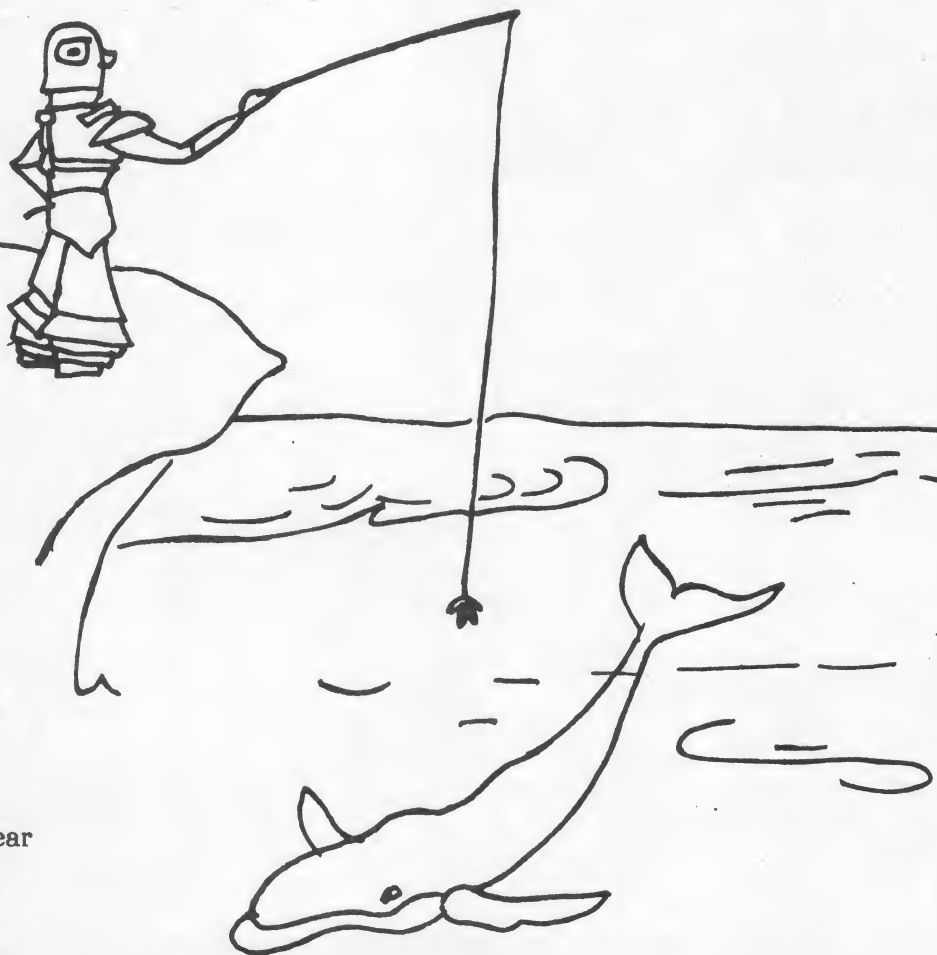
Chip was **incorrect** about the flight.

The planet was **invisible** during the day.

REVIEW LESSON 7  
CHIP 6502

Out of Space With CHIP 6502

Use as many words as you can from the list below to write an adventure story about the robot named Chip 6502.



unsafe

return

disappear

unsure

reopen

dislike

preview

inactive

unpack

refill

disagree

prehistoric

invisible

preheat

replace

distrust

indefinite

REVIEW LESSON 7  
CHIP 6502

SAMPLE RUNS

**Chip 6502**

**Long, long ago in a  
galaxy far beyond  
the Milky Way,  
lived a robot  
called Chip 6502.**

Students build a robot called CHIP 6502 by answering problems correctly.

EXAMPLES OF SCREEN OUTPUT

**Add pre, re, dis, un, in  
\_\_\_\_\_ fill**

**The ship's crew must  
\_\_\_\_\_ fill the fuel  
tank after flight.**

**Press RETURN to continue.**

The Review Lesson gives words and five prefixes from which to choose. Students select the correct prefix to make a correct sentence.

For each problem answered correctly, a part of the robot Chip 6502 appears on the screen. If incorrect, students go on to the next problem without seeing the robot.

SAMPLE RUNS

**Build Chip by making  
a word using the  
right prefix.**



Students must answer 11  
out of 15 problems  
correctly for the robot  
to play a little tune.

If they do not get 11  
problems correct, they  
are told to try again to  
build Chip 6502. Be sure  
sound is turned on.

EXAMPLES OF SCREEN OUTPUT

**CHIP 6502**

<b>ACTI- VITY</b>	<b>NUMBER</b>	<b>RIGHT</b>
<b>1</b>	<b>11</b>	<b>10</b>
<b>TOTALS</b>	<b>11</b>	<b>10</b>

At the end of the drill  
students receive a score  
to copy on their score-  
sheet.

Press **RETURN** to continue.



## **APPENDICES**

GETTING TO KNOW YOUR ATARI COMPUTEREquipment

ATARI COMPUTER CONSOLE: The computer and keyboard.

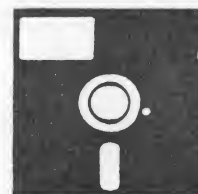
BASIC LANGUAGE CARTRIDGE: A cartridge (containing the BASIC computer language) that is inserted into the console above the keyboard.



TELEVISION: A television set used to display information.

DISK DRIVE: A unit that holds and reads the diskette.

DISKETTE: A 5¼ inch "record" that contains a series of computer programs.

ATARI Computer Keyboard

The ATARI Computer keyboard looks much like the keyboard of a typewriter. Some special keys are noted below:



**RETURN** Key—When you are finished typing either a response to a question or a line in a program, you send the information to the computer by pressing the **RETURN** key.



**BACK S** (Backspace) Key—Each time you press the **BACK S** key, the cursor backs up one space and erases each letter it passes over. This feature allows you to correct typographical errors easily.



**BREAK** Key—Press this key to stop the execution of a program. The program will remain in the computer memory and may be run again. If **BREAK** doesn't work to stop the program, try the **RESET** key.




**RESET** Key—Like the **BREAK** key, the **RESET** key stops program execution. It also clears the screen. To restart, type RUN"D:HELLO".



**ESC** (Escape) Key—While you are using MECC diskettes, press the **ESCAPE** key in response to a question to stop program execution. The computer will ask whether you wish to run the program again. If you do not, the computer will display the diskette menu, and you may choose another program.



**SHIFT** Key—Use the computer **SHIFT** key like that of a typewriter. If a key displays two characters, you may hold down the **SHIFT** key while typing to print the upper character. For example, holding down the **SHIFT** key and typing  will print !.



**CAPS/LOWR** (Capitals/Lower case) Key—When you press this key, the computer begins typing in lower-case letters. To capitalize individual letters, you must hold down the **SHIFT** key as with a typewriter. To switch back to all capitals, hold down the **SHIFT** key, and press the **CAPS/LOWR** key again.



**CTRL** (Control) Key—Hold down the **CONTROL** key while pressing another key if indicated by the computer instructions.

### Keys That Can Cause Confusion



**0** (Zero)—The zero is on the top row of keys. Do not use the letter **O** interchangeably with this number key.



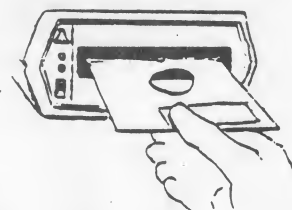
**1** (One)—The number one is on the top row of keys. Do not use it interchangeably with a lower-case **L** (l).

USING A MECC DISKETTEUsing the Computer

1. Make certain that the ATARI Computer, BASIC language cartridge, disk drive and television are plugged in and connected to each other properly. (See the ATARI Computer New User's Guide by MECC for detailed instructions.)
2. Turn on the television.
3. Turn on the disk drive. The PWR ON and BUSY lights will come on. After about 10 seconds the BUSY light will go off, and the whirling sound will stop.

**Turn on the disk drive before you turn on the computer.**

4. Press the rectangular release button below the disk drive to open the door. Insert a diskette into the disk drive, exposed oval part first, with the diskette label up. Diskettes are sensitive to dust, heat, cold and magnetic fields, so handle them with care. (See the User's Guide for information on diskette care.)
5. Close the door on the disk drive.
6. Turn on the ATARI Computer. The power switch is located on the right side near the power cord. The disk BUSY light will turn on, and you will hear a whirling sound from the disk drive.



If the disk BUSY light does not go off in about 10 seconds, turn the computer off, and make sure that the diskette is placed correctly in the disk drive. Then turn the computer on.

If no display appears on your television screen at this point, and the television is set at channel 2 or 3, the computer may be set for the wrong channel. The channel select switch is on the back of the ATARI 400 Computer. Switch it to the opposite position.

7. A MECC logo will appear on the screen with the diskette name. Then a "menu" will appear. The menu gives a list of programs on the diskette. To run a program, type the number shown in front of the program name, then press the **RETURN** key. To access any available teacher options on the diskette, hold down the **CTRL** key and type A.
8. Follow the directions given in the program. Remember to press the **RETURN** key after each answer.
9. To return to the menu while running a program, press the **ESC** (Escape) key in response to any question.

The screen will then ask whether the current program is to be run again or not. If not, the menu is automatically displayed.

10. To use a different diskette, select the END option from the menu, and follow the directions on the screen.

Turning Off The Computer

1. Take the diskette out of the disk drive, and store it in its protective envelope.
2. Turn off the ATARI Computer, the disk drive and the television.

### DEFINITIONS OF TERMS

BACKGROUND INFORMATION—The information that explains or enriches program content or provides technical information on the program.

COURSEWARE—A collection of computer programs together with accompanying support materials.

DOCUMENTATION—The written material for the teacher to use with the computer program (also called a support booklet or support materials).

DRILL AND PRACTICE—A computer program that provides repetitive practice on a skill or a set of facts.

EDUCATIONAL GAME—A computer program that presents an instructional purpose in a game format.

GRADE LEVEL—The range of grades for which the program was designed.

HANDOUTS—The pages of the support booklet that may be duplicated for student or teacher use.

MODULE—The package containing the computer program(s) and the support booklet.

OBJECTIVES—The results to be achieved by using the program and support materials.

PROBLEM SOLVING—A computer program that processes data for a problem defined by the student.

PROGRAM—The routines and operations that instruct the computer.

READING LEVEL—The readability of the text that appears on the computer screen.

SAMPLE RUNS—The pages of the support booklet that show examples of computer screen output and accompanying explanations to outline the program flow.

SELO—Some Essential Learner Outcomes prepared by the Minnesota State Department of Education. When applicable these are included with the objectives in MECC support booklets.

SIMULATION—A computer program that approximates a real-world environment for examination.

SUPPORT BOOKLET—The written material (also called documentation) that provides the information a teacher may need to use the program in a classroom.

TEACHER AID—A computer program designed to assist a teacher with classroom management tasks.

TUTORIAL—A computer program that provides new information to teach a concept and may include drill and practice.

**CREDITS**

**PREFIXES**

The MECC PREFIX diskette and support materials was developed by Bob Jamison and Marge Kosel of the MECC staff and Shirley Birr of the St. Cloud State University Laboratory school, St. Cloud, Minnesota. Programming of the diskette was done by Brain Walker and Todd Bailey. Artwork was done by Shirley Keran. This document was edited and produced by the MECC Instructional Services staff.

The Prefixes module is a conversion for the ATARI Computer of MECC materials designed for other computing systems. Support material was prepared by Doris Bower, MECC. This module is a product of MECC Instructional Services.

## PREFIX DISTRIBUTION CHART 1

Chart 1 shows the number of times a particular prefix to be taught occurs within the textbooks examined and the lowest and highest grade levels in which it is found.

(Data gathered in July of 1979)

Prefix	# of Publishers	# of times taught	Lowest grade level	Highest grade level
a	4	6	2nd	6th
ab	1	1	6th	6th
ad	1	1	6th	6th
ante	1	1	6th	6th
anti	2	2	6th	7th
at	1	1	5th	5th
be	2	3	3rd	6th
bi	3	4	4th	6th
circum	2	2	6th	6th
com	3	4	5th	5th
con	3	4	5th	5th
counter	2	2	6th	7th
de	3	4	3rd	5th
dis	7	20	3rd	5th
e	1	1	6th	6th
em	3	3	6th	6th
en	4	10	2nd	5th
el	1	1	6th	6th
es	1	1	6th	6th
ex	3	5	5th	6th
extra	2	2	6th	6th
fore	4	5	4th	6th
il	1	2	6th	5th
im & in	5	12	3rd	5th
inter	4	7	5th	6th
ir	2	3	6th	6th
mis	5	8	3rd	6th
mid	1	3	4th	
non	4	7	3rd	5th
ob	1	1	6th	6th
out	2	4	5th	5th
over	3	6	4th	6th



Chart 1 continued.

Prefix	# of Publishers	# of times taught	Lowest grade level	Highest grade level
pent	2	2	6th	7th
pre	7	16	3rd	5th
post	2	2	5th	6th
pro	4	6	5th	
per	1	1	6th	6th
quad	2	2	6th	7th
re	7	24	2nd	5th
sub	4	7	2nd	6th
super	5	6	3rd	6th
trans	4	5	5th	6th
tele	2	2	2nd	3rd
tri	3	3	6th	7th
un	7	25	2nd	3rd
uni	2	2	4th	6th
under	4	5	3rd	6th
ultra	1	1	6th	6th

# PREFIX DISTRIBUTION CHART 2

Chart 2 shows the grade levels at which a particular prefix to be taught is found in the textbooks examined.

(Data gathered in July of 1979)

GRADE	1978		1979		1977		1976		1978		1979	
	1st Edition Scott Foresman	2nd Edition Houghton Mifflin	2nd Edition Ginn	2nd Edition Holt	1st Edition Laudlaw	1st Edition Allyn & Bacon	1st Edition (Bookmark Program) Harper Row					
2nd	un			en, sub, tele, re, un	a, re, un	un	re, un					
3rd	pre, un re	un	a, be, de, pre, re, un, under	dis, in(im), non, un, re, mis,	a, un, dis, re	un, dis, super, tele	dis, pre					
4th	dis, pre, re, un	fore, mis, pre, un, re	be, dis, en, in(im), non, re, un	dis, in(im), non, pre, super, un, re, uni	dis, im, over, under, un, en, mis	bi	dis, fore im, in, mid, pre, re, un, sub					
5th	mis, out, over, under	a, de, dis, en, inter, non	at, com, con, ex, fore, pre, pro, sub, super, trans	com, con, de, en, ex, fore, re, it, im, in, dis, un, mis, non, pre, pro	a, com, con, im, over, pro, pre, re, un, ex, mis, in, dis, out	dis, in, pre, re, un, pro	dis, et, im, in, inter, ir, mid, non, past, pre, sub, trans, un					

GRADE	1978		1979		1979		1977		1976		1978		1979	
	1st Edition	Foresman	2nd Edition	Houghton Mifflin	2nd Edition	Ginn	2nd Edition	Holt	1st Edition	Laudlaw	1st Edition	Allyn & Bacon	1st Edition	(Bookmark Program) Harper Row
6th	dis, mis, out, over, pre, re, un, under		dis, en inter, mis, pre, re, un		(missing)		a, ab, ad, ante, anti, be, circum, com, con, counter, de, dis, e, em, en, es, ex, extra, it, im, in, inter, ir, non, ob, per, post, pre, pro, re, sub, super, trans, tri, un		bi, inter, un, dis, em, mis, en, over, in, re		uni, bi, tri, quad, trans, im,		bi, dis, em, extra, fore, pent in, inter, mid, mis, over, re, sub, super, trans, ultra, un	

7th							counter, fore, mis, re, un, pre							
8th							anti, circum, dis, mono, post, pre, sub, super							

## PREFIXES

## TECHNICAL INFORMATION

UN	Main Program:	UN
	Binary Files:	UN.FNT
RE	Main Program:	RE
	Chains to:	REACT
	Binary Files:	UN.FNT
DRAGON FIRE	Main Program:	DRAGFIRE
	Binary Files:	DRAGON.FNT
DIS	Main Program:	DIS
	Chains to:	DISACT
	Binary Files:	DIS.FNT
PRE	Main Program:	PRE
	Chains to:	PREACT
	Binary Files:	PRE.FNT
IN	Main Program:	IN
	Chains to:	INACT
	Binary Files:	IN.FNT
CHIP 6502	Main Program:	CHIP6502
	Binary Files:	CHIP.FNT

## MECC INSTRUCTIONAL SERVICES ACTIVITIES

**PURPOSE:** The primary purpose of the Minnesota Educational Computing Consortium (MECC) is to assist users and educational member systems in coordinating and using computing resources through cooperative planning and decision making. MECC also provides current computing methods and materials.

**SERVICES:** All MECC activities in instructional computing are the responsibility of the Deputy Executive Director (Telephone: **612/638-0610**). Direct any questions related to MECC policy, procedures, or regulations to this office. The MECC Instructional Services Division is organized as follows:

Instructional Systems Development—This group is responsible for the production, coordination, and refinement of MECC instructional computing courseware products, computer programs, and their related user support material. Direct any questions on operations within this area to the Manager, Instructional Systems Development (Telephone: **612/638-0613**).

Technical Services—This group is responsible for operation and operating systems maintenance of the MECC Timeshare System (MTS), a 400+ port, all-purpose, multiple language computer, which serves all Minnesota public higher education institutions and 300 school districts. Technical Services also establishes and maintains the MTS telecommunications network. Direct any questions on operations within this area to the Manager, Technical Services (Telephone: **612/638-0636**).

User Services—This group is responsible for timeshare and microcomputer user communications and training and the distribution of computing equipment and MECC courseware products. A staff of instructional computing coordinators is located throughout Minnesota to promote and facilitate computer usage. Direct all questions on operations in this area to the Manager, User Services (Telephone: **612/638-0612**).

**GENERAL  
INFORMATION:**

MECC provides the above information to assist individuals who wish to contact the MECC office with specific questions. Direct all written requests for information to the appropriate office at MECC, 2520 Broadway Drive, St. Paul, MN 55113. The following two items address many routine questions:

**MECC Publications and Programs Price List**

MECC distributes this free list upon request and suggests that you obtain it quarterly. Contact the MECC Publications Office (Telephone: **612/638-0627**).

**MECC USERS Newsletter**

MECC distributes this free newsletter regularly during the school year to individuals on the mailing list. Contact the User Services Office (Telephone: **612/638-0608**).

All requests for visits to MECC must be scheduled in advance by calling **612/638-0606**.

